

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte KAZUHIRO OHARA

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Appeal No. 1996-3081  
Application No. 08/156,544<sup>1</sup>

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ON BRIEF

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Before HAIRSTON, FLEMING and RUGGIERO, Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 40. In an Amendment After Final (paper number 6), claims 1, 7, 20 and 26 were amended, and claims 2, 8, 16, 21, 27, 36 and 40 were canceled.<sup>2</sup> Thus, claims 1, 3 through 7, 9

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<sup>1</sup> Application for patent filed November 23, 1993.

<sup>2</sup> According to the examiner (paper number 7), the amendment had the effect of overcoming the indefiniteness

through 15, 17 through 20, 22 through 26, 28 through 35 and 37 through 39 remain before us on appeal.

The disclosed invention relates to a method and apparatus for processing video data to reduce noise levels.

Claims 1 and 7 are illustrative of the claimed invention, and they read as follows:

1. A method for reconstructing a corrupted binary cyclic signal with digital logic circuitry, comprising the steps of:

dividing each cycle of the corrupted cyclic signal into portions;

comparing the logic states of each portion in each cycle to a corresponding portion in at least two other cycles in the corrupted cyclic signal, said at least two other cycles having a predetermined temporal relationship to said cycle in each comparison;

determining the logic state of the majority of the compared portions; and

generating a reconstructed cyclic signal corresponding to the corrupted cyclic signal, wherein the logic state of each portion comprises the determined logic state in the step of determining.

7. A method for reconstructing corrupted binary cyclic signals comprising:

sampling a predetermined number of equally time-spaced

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rejection of claims 1 through 40.

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portions in the cyclic signal to provide sampled portions, each of said sampled portions having corresponding portions in respective cycles of the cyclic signal;

comparing the each of the sampled portions of each cycle with other of the sampled portions of other cycles and determining the logic state of the majority of the compared ones of the sampled portions, said other cycles having a predetermined temporal relationship to said cycle in each comparison; and

generating a reconstructed signal corresponding to the corrupt cyclic signal wherein the logic state of each of the sampled portions is forced to correspond to the determined logic state of the majority decision in the step of comparing.

The references relied on by the examiner to reject the claims on appeal are:

Schulz et al. (Schulz) 1984	4,464,674	Aug. 7,
Dillon et al. (Dillon) 1993	5,241,548	Aug. 31,

(filed May 23, 1991)

Claims 1, 3 through 7, 9 through 15, 17 through 20, 22 through 26, 28 through 35 and 37 through 39 stand rejected under 35 U.S.C. § 103 as being unpatentable over Schulz in view of Dillon.

Reference is made to the briefs and the answer for the respective positions of the appellant and the examiner.

OPINION

The obviousness rejection of claims 1, 3 through 7, 9 through 15, 17 through 20, 22 through 26, 28 through 35 and 37 through 39 is sustained as to claims 7, 9 through 11, 26 and 28 through 31, and is reversed as to claims 1, 3 through 6, 12 through 15, 17 through 20, 22 through 25, 32 through 35 and 37 through 39.

Appellant argues that neither Schulz nor Dillon discloses "binary cyclic signals" (Brief, page 4). While there is some question as to whether the digital "picture points" disclosed by Schulz (Figure 1) are "binary cyclic" signals, there is no doubt that the three digital data words disclosed by Dillon (Figure 5) are "binary cyclic" signals when mapped cyclically with "1" being the high portion of the signal, and "0" being the low portion of the signal. The artisan is guided by skill, and not stupidity. In re Sovish, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985). Thus, appellant's arguments to the contrary notwithstanding, it would have been obvious to one of ordinary skill in the art to implement the digital data words in Dillon in "binary cyclic" signal form.

Turning to the method and system of claims 7 and 26, respectively, we find that these claims are not limited to

video signals, the division of each cycle of the "binary cyclic" signal into portions, or the specific circuitry for processing video signals to produce the "binary cyclic" signals. With the exception of the "binary cyclic" signal, which would have been obvious to implement based upon the teachings of Dillon, all of the limitations of these two claims read directly on Dillon.

Dillon discloses a method and system for reconstructing corrupted digital data words (i.e., "binary cyclic" signals) transmitted from a base station to a radiotelephone in a cellular radiotelephone system (column 3, line 42 through column 4, line 9). Dillon samples a predetermined number of equally time-spaced portions (e.g., bit by bit) in the "cyclic" signal to provide sampled portions, with each of the sampled portions having corresponding portions in respective cycles of the "cyclic" signal. Dillon compares the sampled bit position in data word 1 with corresponding sampled bit positions in data words 2 and 3. For example, the error "x" in the first bit position in data word 1 is compared with first bit position "1" in data word 2 and first bit position "1" in data word 3 (Figure 5). The error "x" in the first bit

position has "a predetermined temporal relationship" to the first bit positions in data words 2 and 3. Thereafter, "a bitwise majority vote is performed on the three words" (column 2, lines 16 through 19; Figure 3B). After the "two-out-of-three majority vote is performed on the three stored words" (column 4, lines 22 through 24; Figure 3B), an error corrected word or "reconstructed signal" (Figure 5) is generated when "the logic state of each of the sampled portions is forced to correspond to the determined logic state of the majority decision in the step of comparing."

In summary, the 35 U.S.C. § 103 rejection of claims 7 and 26 is sustained based upon the teachings of Dillon considered alone. In affirming a multiple reference rejection under 35 U.S.C.

§ 103, the Board may rely on one reference alone in an obviousness rationale without designating it as a new ground of rejection. In re Bush, 296 F.2d 491, 496, 131 USPQ 263, 266-67 (CCPA 1961); In re Boyer, 363 F.2d 455, 458, n.2, 150 USPQ 441, 444, n.2 (CCPA 1966). The 35 U.S.C. § 103 rejection of claims 9 through 11 and 28 through 31 is likewise sustained because of appellant's grouping of the claims (Brief, page 3).

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Turning next to the obviousness rejection of the remainder of the claims on appeal, appellant and the examiner both agree that Schulz is directed to an averaging technique for correcting errors in a digital television signal environment, and Dillon is directed to a majority vote technique for correcting errors in a cellular radiotelephone environment (Brief, pages 3 and 4; Answer page 3). Notwithstanding the major differences between the two error correcting techniques, the examiner nevertheless concluded that the skilled artisan "would have been motivated to implement the majority selection method [of Dillon] in the system of Schulz et al as an alternative method of reducing noise in the digital data" (Answer, pages 3 and 4). In the absence of evidence in the record or a convincing line of reasoning by the examiner,<sup>3</sup> we agree with appellant's arguments (Brief, pages 3 and 4) that the two "alternative" error correcting techniques are not mere "alternative" methods of reducing noise. In short, the rejection of claims 1, 3

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<sup>3</sup> The reference to Lowry (U.S. Patent No. 4,107,736) is not in the statement of the rejection, and it will not be considered by the Board (Answer, pages 4 and 5). In re Hoch, 428 F.2d 1341, 1342, 166 USPQ 406, 407 (CCPA 1970).

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through 6, 12 through 15, 17 through 20, 22 through 25, 32 through 35 and 37 through 39 is reversed because the examiner has not set forth a prima facie case of obviousness.

#### DECISION

The decision of the examiner rejecting claims 1, 3 through 7, 9 through 15, 17 through 20, 22 through 26, 28 through 35 and 37 through 39 under 35 U.S.C. § 103 is affirmed as to claims 7, 9 through 11, 26 and 28 through 31, and is reversed as to claims 1, 3 through 6, 12 through 15, 17 through 20, 22 through 25, 32 through 35 and 37 through 39. Accordingly, the decision of the examiner is affirmed-in-part.



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No time period for taking any subsequent action in  
connection with this appeal may be extended under 37 CFR  
§ 1.136(a).

AFFIRMED-IN-PART

KENNETH W. HAIRSTON	)	
Administrative Patent Judge	)	
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	)	
	)	BOARD OF PATENT
MICHAEL R. FLEMING	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
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	)	
JOSEPH F. RUGGIERO	)	
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